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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,966	01/30/2004	Colm V. Cryan	OIC-PT005.1	4543
3624	7590	11/17/2005	EXAMINER	
VOLPE AND KOENIG, P.C. UNITED PLAZA, SUITE 1600 30 SOUTH 17TH STREET PHILADELPHIA, PA 19103			WONG, TINA MEI SENG	
			ART UNIT	PAPER NUMBER
			2874	

DATE MAILED: 11/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

H.A

**Office Action Summary**

Application No.

10/768,966

Applicant(s)

CRYAN ET AL.

Examiner

Tina M. Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 19 September 2005.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 30 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

This Office action is responsive to applicant's communication submitted on 19 September 2005.

#### *Specification*

As indicted in the previous Office action, the disclosure is objected to because of the following informalities: On Page 6, Line 4 of the Specification, the sentence ending with the phrase "the mode of the" appears to be an incomplete sentence. Appropriate correction is required.

#### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-5 and 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,711,918 to Klinér et al.

Klinér et al discloses a drawn and fused preform comprised of a plurality of rods with different indices (42a, 41a, 41b), such as a high index rod, low index rod and intermediate index rods. Klinér et al further discloses the rods to be made of glass. (Figure 4) But Klinér et al fails to specifically disclose the entire fiber to be a graded index fiber, a predetermined arrangement of the low and high index rods and an arrangement of index rods to provide a desired refractive index distribution. However, Klinér et al does disclose the drawn optical fiber can have a

radially graded profile. (Column 8, Lines 48-56) Additionally, Kliner et al discloses as an example, a step-index profile. (Column 5, Lines 15-23) A graded index profile is actually a multiple number of small step increases. By creating a step profile with many small increments, it would essentially create a graded index profile. Furthermore, in order to create a specific type of refractive index distribution, such as a graded profile, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have placed the rods with different indices in a predetermined pattern, otherwise, the desired profile would not result.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,711,918 to Kliner et al as applied to claim 1 above, and further in view of U.S. Patent 6,091,872 to Katoot. Kliner et al discloses a drawn, heated and fused preform with rods with a plurality of different indices. But Kliner et al fails to disclose the low and high index rods to be formed of a polymer. However, Katoot discloses an optical bundle drawn and fused (Column 9 Lines 13-15). Katoot further discloses the optical fibers to be made of glass or polymers. (Column 10 Lines 5-6) Therefore, it would have been obvious at the time the invention was made to a person having ordinary skill in the art to have formed low and high index rods with a polymer material in place of glass.

Claims 7-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent 6,711,918 to Kliner et al as applied to claim 1 above in view of U.S. Patent 4,360,372 to Maciejko. Kliner et al discloses a drawn, heated and fused preform with rods with a plurality of different indices. But Kliner et al fails to disclose a graded index fiber with a center located at a specified position, the fused fibers located in a predetermined pitch and an arrangement of fused fibers into an array. However, Maciejko discloses array of in Figures 1 and 2 that show the fused

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fibers are also capable of being placed in an array. Therefore, it would have been obvious at the time the invention to a person with ordinary skill in the art to have a graded index fiber placed in a specific location and to have the fused fibers arranged in an array located in a predetermined pitch.

***Response to Arguments***

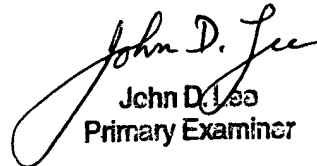
Applicant's arguments, filed 19 September 2005, with respect to the rejection(s) of claim(s) 1-<sup>11</sup> have been carefully studied and re-evaluated by the examiner. The arguments advanced therein, are persuasive and the rejections based upon prior art made of record in the previous Office Action are withdrawn. In view of further search, however, and the consequent discovery of relevant prior art documents, a new rejection is set forth. This action is **not** made final.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tina M. Wong whose telephone number is (571) 272-2352. The examiner can normally be reached on Monday-Friday 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
TMW

  
John D. Lee  
Primary Examiner